

#### ABSTRACT

A device is provided having a cathode capable of catalytically reducing oxygen, an anode capable of catalytically oxidizing hydrogen, and an electrolyte in contact with both the anode and cathode. The cathode and/or anode contain transition-metal phosphates with the formula  $M^1-M^2P_xO_y \cdot zH_2O$ , where  $M^1$  is a platinum group metal and  $M^2$  is a transition metal.